

REMARKS

By this Amendment, claims 10, 27 and 30 have been rewritten in independent format, thereby rendering them allowable. Accordingly, claims 10, 18, 27, and 30 are allowable. Also by this Amendment, new claims 36 and 37 are added to more fully claim the disclosed invention (those claims being patentable for reasons similar to the remaining claims pending in the application), claims 1-2, 5-8, 10, 14, 16-20, 27, 30, 31 and 33 are amended to clarify the recited subject matter and an Abstract is submitted on a separate sheet of paper, as requested by the outstanding Office Action. Claim 13 has been cancelled without prejudice or disclaimer.

Status of the Claims

Claims 1-12 and 14-36 are pending.

The Office Action rejected claims 1 and 19 under 35 U.S.C. § 102(e) as being anticipated by Aoki et al. (U.S. Patent No. 5,757,792; hereafter “Aoki”). Claims 1, 6, 8, 15, 17, 19, 21 and 23 were rejected under 35 U.S.C. § 102(e) as being anticipated by Roobol et al. (U.S. Patent No. 6,363,058; hereafter “Roobol”). Claims 1, 2, 3, 14, 19, 20, 24, and 31-35 were rejected under 35 U.S.C. § 102(e) as being anticipated by Gorsuch et al. (U.S. Patent No. 6,081,536; hereafter “Gorsuch”). Claims 1, 4, 5, 15, 16, 19, 21, 22, and 25 were rejected under 35 U.S.C. § 102(e) as being anticipated by Rotter et al. (U.S. Patent No. 5,901,143; hereafter “Rotter”). Claims 11, 12, 28, and 29 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Gorsuch and Tracy et al. (U.S. Patent No. 6,014,089; hereafter “Tracy”). Claims 9 and 26 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Gorsuch in view of Grube et al. (U.S. Patent No. 5,583,869; hereafter “Grube”).

Traversal of Rejections

Applicant traverses the rejections because no combination of the cited prior art references teaches or suggest all the features recited in the rejected claims. For example, the cited prior art references fail to disclose, teach or suggest:

- a method comprising “assigning only one common traffic channel to two or more simultaneous mobile communication network calls of the mobile station, sharing the capacity of the common traffic channel between the simultaneous calls, negotiating between the mobile station and a mobile communication network about the channel capacity needed for each call or connection, and adjusting dynamically the capacity of

the common traffic channel,” as recited in independent claim 1 and its dependent claims;

- a method comprising “assigning only one common traffic channel to two or more simultaneous mobile communication network calls of the mobile station, sharing the capacity of the common traffic channel between the simultaneous calls, negotiating between the mobile station and the network about the channel capacity needed for each call or connection. . .,” as recited in independent claims 2 and 5-8 and their respective dependent claims;
- a mobile station comprising “means for sharing the capacity of one common traffic channel between two or more simultaneous mobile communication network calls, means for negotiating between the mobile station and the network about the channel capacity needed for each call or connection, and means for adjusting the capacity of said common traffic channel dynamically,” as recited in independent claim 14 and its dependent claims;
- a mobile station comprising “means for sharing the capacity of one common traffic channel between two or more simultaneous mobile communication network calls, means for negotiating between the mobile station and the network about the channel capacity needed for each call or connection, . . . and means for adjusting the capacity of said common traffic channel dynamically,” as recited in independent claim 16;
- a mobile station comprising “means for sharing the capacity of one common traffic channel between two or more simultaneous mobile communication network calls, [and] means for negotiating with a network about the channel capacity needed for each call or connection. . .,” as recited in independent claim 17;
- a mobile communication network comprising “means for establishing one traffic channel of the mobile communication network for two or more mobile communication network calls, means for sharing the capacity of said common traffic channel between said simultaneous calls, means for negotiating between the mobile station and a network about the channel capacity needed for each call or connection, and means adjusting dynamically the capacity of the common traffic channel,” as recited in independent claim 19 and its dependent claims;
- a mobile communication network comprising “means for establishing one traffic channel of the mobile communication network for two or more simultaneous mobile communication network calls of a mobile station, means for sharing the capacity of said common traffic channel between said simultaneous calls, means for negotiating between the mobile station and a network about the channel capacity needed for each call or connection, and means for adjusting the capacity of said common traffic channel dynamically,” as recited in independent claim 20;
- a mobile communication network comprising “means for establishing one traffic channel of the mobile communication network for two or more simultaneous mobile communication network calls of a mobile station, means for sharing the capacity of said common traffic channel between said simultaneous calls,” as recited in independent claims 27 and 30;
- a mobile station comprising “means for sharing the capacity of one common traffic channel assigned to two or more simultaneous calls between said simultaneous calls, means for negotiating with network about the channel capacity needed for each call or connection, means for negotiating with a network about the use or support of the

common traffic channel, and means for adjusting the capacity of said common traffic channel dynamically,” as recited in independent claim 31 and its dependent claims;

- a method comprising “assigning only one common traffic channel to two or more simultaneous mobile communication network calls of the mobile station, sharing the capacity of the common traffic channel between the simultaneous calls, negotiating between the mobile station and a network about the channel capacity needed for each call or connection, negotiating between the mobile station and a network about the use or support of the common traffic channel, and adjusting dynamically the capacity of the common traffic channel,” as recited in independent claim 33 and its dependent claims;
- a method comprising assigning only one common traffic channel to two or more simultaneous mobile communication network calls of the mobile station, sharing the capacity of the common traffic channel between the simultaneous calls, negotiating between the mobile station and a network about the channel capacity needed for each call or connection, and adjusting dynamically the capacity of the common traffic channel,” as recited in independent claim 35.

Deficiencies of Aoki

Contrary to the assertions of the Office Action, Aoki merely discloses a method wherein two half-rate traffic channels are allocated for speech communication and data communication to a mobile station. The half-rate traffic channels are two separate traffic channels that alternate in the TDMA time slot allocated to the mobile station. This approach is similar to the half-rate traffic channel concept specified in the ETS GSM specifications but is totally different from the present invention, because, **in Aoki, a dedicated traffic channel (half-rate traffic channel) is allocated to each call in Aoki.**

To the contrary, in accordance with the claimed invention, two or more simultaneous data calls are handled on one mobile station by assigning only one common traffic channel to the two or more simultaneous calls of the mobile station, and the capacity of the common traffic channel is shared between the simultaneous calls.

Aoki further fails to disclose, teach or suggest negotiation between a mobile station and a network about channel capacity needed for each call or connection, and dynamic adjustment of the capacity of the common traffic channel.

Therefore, Aoki, fails to disclose, teach or suggest all the features recited in the rejected claims. Accordingly, claims 1, 6, 8, 17 and 19 are patentable over Aoki and Roobol.

Deficiencies of Roobol

Roobol merely discloses providing different LLC (Logical Link Control)/RLC (Radio Link Control) links for each service of multiple services of a mobile station, and multiplexing the LLC/RLC frames of services having similar requirements into a single logical traffic channel or radio bearer service. As a result, the number of the logical channels or radio bearer services relating to the multi-service can be reduced in comparison with other conventional systems wherein the each service had a dedicated logical traffic channel or radio bearer service. Several logical traffic channels or radio bearer services may be multiplexed into a single physical channel as in the conventional systems. Transmission of time critical bearer services can be prioritized for other bearer services in the multiplexing.

However, Roobol fails to disclose, teach or suggest **negotiation between the mobile station and the network about the capacity needed for each call and connection**, as recited in claims 1, 6, 8, 17 and 19.

Therefore, Roobol, analyzed individually or in combination with Aoki, fails to disclose, teach or suggest all the features recited in the rejected claims. Accordingly, claims 1, 6, 8, 17 and 19 are patentable over Aoki and Roobol.

Deficiencies of Gorsuch

Gorsuch merely discloses a method for providing a wireless ISDN connection from an ISDN modem to a PSTN via a CDMA subscriber unit, a CDMA radio interface, and a CDMA base station. IN Gorsuch, ISDN channels (2B+D) provide one ISDN data stream that is encapsulated into a wireless protocol utilized in the CDMA radio interface. The available radio channel spectrum is subdivided into narrower subchannels each having a dedicated spreading code. The number of subchannels and thereby the bandwidth allocated to the wireless ISDN connection at each specific time is adjusted dynamically according to the bandwidth required for transmitting the ISDN data stream over the CDMA system.

However, from the CDMA system point of view, an ISDN connection is a single call with variable bandwidth requirements. Therefore, Gorsuch fails to disclose, teach or suggest assignment of a common traffic channel to two or more simultaneous calls of the same mobile station, and to share the capacity of the common traffic channel between the simultaneous calls.

Although the Office Action has asserted that the calls originating from elements 112-x are separate calls sharing a single traffic, the elements 112 are actually line interfaces to a single ISDN modem 120. That ISDN modem 120 interfaces with a protocol converter 130 and a CDMA transceiver 140 using a single ISDN data stream which is encapsulated into wireless protocol. Therefore, from the CDMA mobile communication system point of view, the ISDN stream encapsulated in the wireless protocol is a single call with variable bandwidth requirements. The CDMA system is aware of the constituents of the ISDN signal, and more particularly, CDMA system does not handle them as separate calls.

To the contrary, in accordance with the claimed invention, simultaneous calls are mobile network calls which are setup, controlled and released as independent calls in the mobile communication network; Accordingly, the claimed handling of simultaneous calls is not met by Gorsuch's individual user traffic streams of one call.

Therefore, Gorsuch fails to disclose, teach or suggest **assignment of a common traffic channel to two or more simultaneous mobile communication network calls of the same mobile station, and sharing of the capacity of the common traffic channel between the simultaneous mobile communication network calls.**

Gorsuch further fails to disclose, teach or suggest the claimed **negotiation between the mobile station and the network about the capacity needed for each call or connection**, as recited in claims 1-3, 14, 19, 20, 24, and 31-35.

Gorsuch further fails to disclose, teach or suggest the claimed **negotiation with a network about the use or support of the common traffic channel**, as recited in claims 31 and 33.

Thus, Gorsuch, analyzed individually or in combination with Aoki and Roobol, fails to disclose, teach or suggest all the features recited in rejected claims. Accordingly, claims 1-3, 14, 19, 20, 24, and 31-35 are patentable over Gorsuch, Roobol and Aoki.

Deficiencies of Rotter

Rotter merely discloses a method for providing a MRLP (Multiple Radio Link Protocol) broadband link that can be used for synchronous transmission. Conventionally, the error correction of the MRLP link is based on repetition of data packets. Consequently, the transmission delay requirements of the synchronous transmission are not met. Rotter teaches distinguishing between data packets related to a synchronous transmission and

data packets related to an asynchronous transmission (e.g., control information of the connection) with less strict delay requirements. Error correction with repetition is applied to the “asynchronous” data packets, to enable control functionality, but is not applied to the “synchronous” data packets, to enable synchronous transmission over the MRLP link.

However, from the radio network point of view, the RLP link provides only a single call. Thus, Rotter fails to disclose, teach or suggest assignment of a common traffic channel to two or more simultaneous calls of the same mobile station, and sharing of the capacity of the common traffic channel between the simultaneous calls.

Although the Office Action has asserted that connections LC1 and LC2 are calls sent over a common traffic channel, LC1 and LC2 are actually only logical connections, i.e., streams of different types of packets within a single call. Therefore, LC1 and LC2 are not separate mobile communication network calls which are setup, controlled and released as independent calls in the mobile communication network as recited in the claimed invention.

Therefore, Rotter fails to disclose, teach or suggest **assignment of a common traffic channel to two or more simultaneous mobile communication network calls of the same mobile station, and sharing of the capacity of the common traffic channel between the simultaneous mobile communication network calls.**

Further, Rotter fails to disclose, teach or suggest the claimed **negotiation between the mobile station and the network about the capacity needed for each call and connection**, as claimed in claims 1, 5, 15, 16, 19 and 21.

Thus, Rotter, analyzed individually or in combination with Aoki, Roobol and Gorsuch, fails to disclose, teach or suggest all the features recited in rejected claims. Accordingly, claims 1, 4, 5, 13, 15, 16, 19, 21, 22 and 25 are patentable over Rotter, Gorsuch, Roobol and Aoki.

Deficiencies of Gorsuch and Tracy

As explained above, Gorsuch fails to disclose, teach or suggest **assignment of a common traffic channel to two or more simultaneous mobile communication network calls of the same mobile station, and sharing of the capacity of the common traffic channel between the simultaneous mobile communication network calls and negotiation between the mobile station and the network about the capacity needed for each call or connection.**

Tracy fails to remedy these deficiencies of Gorsuch because Tracy merely teaches particulars of monitoring traffic in the particular communication network disclosed in Tracy.

Thus, Tracy, analyzed individually or in combination with Gorsuch and/optionally, Rotter, Aoki and Roobol, fails to disclose, teach or suggest all the features recited in rejected claims. Accordingly, claims 11, 12, 28 and 29 are patentable over Tracy, Gorsuch, Rotter, Roobol and Aoki.

Deficiencies of Gorsuch and Grube

As explained above, Gorsuch fails to disclose, teach or suggest **assignment of a common traffic channel to two or more simultaneous mobile communication network calls of the same mobile station, and sharing of the capacity of the common traffic channel between the simultaneous mobile communication network calls and negotiation between the mobile station and the network about the capacity needed for each call or connection.**

Grube fails to remedy this deficiency of Gorsuch because Grube is merely directed to detecting when additional transmission capacity is unavailable.

Thus, Grube, analyzed individually or in combination with Gorsuch and/optionally, Tracy, Rotter, Aoki and Roobol, fails to disclose, teach or suggest all the features recited in rejected claims. Accordingly, claims 9 and 26 are patentable over Grube, Gorsuch, Tracy, Rotter, Roobol and Aoki.

Conclusion

Therefore, no combination of the teachings of Grube, Gorsuch Tracy, Rotter, Aoki and Roobol provides all the features recited in rejected claims. Accordingly, all the pending claims are allowable over the cited prior art.

Thus, all objections and rejections have been addressed. Therefore, Applicant requests issuance of a notice of allowance indicating the allowability of all pending claims. If anything further is necessary to place the application in condition for allowance, Applicant requests that the Examiner contact Applicant's undersigned representative at the telephone number listed below.

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Respectfully submitted,
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